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Job Satisfaction among the Faculty of Higher Education in Sagar District of Madhya Pradesh

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Abstract: *Faculty job satisfaction in higher education institutions represents a critical determinant of institutional effectiveness, student outcomes, and organizational sustainability. This paper examines the factors influencing job satisfaction among faculty members at higher education institutions in Sagar District of Madhya Pradesh. Drawing on empirical evidence from peer-reviewed literature and institutional data, we investigate the relationships between career satisfaction, personal characteristics, organizational factors, and psychological well-being among academic professionals. Our analysis integrates quantitative assessments using machine learning methodologies and traditional statistical approaches. Key findings reveal that career satisfaction among faculty is significantly influenced by perceived competence, work-life integration, mentorship opportunities, and institutional support systems. This study contributes to the broader understanding of faculty well-being and provides evidence-based recommendations for institutional policy development aimed at enhancing job satisfaction and reducing attrition in higher education.*

Keywords: Faculty satisfaction, higher education, career satisfaction, job engagement, institutional effectiveness

I. INTRODUCTION

1.1 Background and Significance

Job satisfaction represents a fundamental psychological construct reflecting an individual's affective evaluation of their work experience, encompassing both cognitive appraisal and emotional responses to employment conditions (Erdogan et al., 2012). In the context of higher education, faculty job satisfaction constitutes a particularly salient concern given the profession's complex nature, involving research, teaching, and administrative responsibilities alongside expectations for scholarly contribution and professional development. The academic labor market in India, particularly in regional contexts such as Sagar District in Madhya Pradesh, faces unique challenges including limited resources, infrastructure constraints, and evolving regulatory frameworks that directly impact faculty well-being.

Research by **Judge and Kammeyer-Mueller (2007)** established foundational understanding regarding personality characteristics as predictors of career success, while subsequent studies have expanded this framework to examine contextual and organizational influences on career satisfaction. Within higher education specifically, faculty satisfaction represents not merely an individual outcome but a systemic concern affecting teaching quality, research productivity, student mentorship, and institutional reputation **(Hojat et al., 2010).**

1.2 Research Context: Sagar District Higher Education

Sagar District in Madhya Pradesh represents a significant educational hub in central India, hosting multiple higher education institutions including universities and colleges offering undergraduate and postgraduate programs across diverse disciplines. The regional context presents distinctive characteristics including: (a) emerging institutional infrastructure development, (b) faculty workforce composition incorporating both senior and early-career academics, (c) competition with metropolitan centers for resource allocation and academic talent, and (d) increasing accountability

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pressures from national quality assurance frameworks. Understanding faculty satisfaction within this specific geographical and institutional context provides valuable insights applicable to similar regional higher education systems across India.

1.3 Research Objectives

This study addresses the following research objectives:

1. To characterize the current state of job satisfaction among faculty at higher education institutions in Sagar District
2. To identify key demographic, organizational, and psychological variables associated with faculty job satisfaction
3. To examine the relationship between career satisfaction and broader life satisfaction outcomes
4. To develop predictive models identifying faculty members at risk for dissatisfaction and potential attrition
5. To propose evidence-based recommendations for institutional interventions to enhance faculty satisfaction and retention

II. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Conceptualizing Job and Career Satisfaction

Career satisfaction, distinct from but closely related to job satisfaction, refers to an individual's positive emotional evaluation of their career trajectory, achievement of career goals, and alignment between professional aspirations and actual accomplishments **(Hagmaier et al., 2018). Erdogan et al. (2012)** conducted a comprehensive review of life satisfaction literature, establishing the multidimensional nature of satisfaction constructs and demonstrating interconnections between work-related satisfaction and broader life satisfaction outcomes.

Turan et al. (2015) examined career satisfaction within higher education contexts specifically, analyzing the relationship between alumni satisfaction, gap periods between academic completion and career entry, and gender differences in Turkish higher education settings. Their findings revealed that career progression patterns and timing of employment significantly influenced subsequent satisfaction trajectories. This research proved particularly relevant for understanding the Indian higher education context where varied career pathways and timing of academic appointments characterize faculty recruitment patterns.

2.2 Antecedents of Career Satisfaction

Multiple studies have identified individual difference variables as predictors of career satisfaction. Judge and **Kammeyer-Mueller (2007)** argued that personality characteristics, particularly those encompassed in core self-evaluations (self-efficacy, self-esteem, locus of control, and emotional stability), serve as fundamental determinants of career success and satisfaction. Subsequently, **Holtschlag et al. (2019)** demonstrated that core self-evaluations predict career satisfaction through both direct pathways and indirectly through positive goal emotions and occupational embeddedness—the degree to which individuals feel integrated within their occupational roles and communities.

Amdurer et al. (2014) extended understanding by examining emotional, social, and cognitive intelligence competencies as predictors of long-term career and life satisfaction. Their longitudinal analysis revealed that emotional intelligence and social competence possessed unique predictive validity beyond traditional cognitive ability measures (GMAT scores), suggesting that interpersonal and emotional capabilities constitute critical success factors in professional careers.

2.3 Organizational and Contextual Influences

Beyond individual characteristics, organizational factors substantially influence career satisfaction**. Laschinger et al. (2012)** investigated newly graduated nurses' career satisfaction and turnover intentions, identifying work environment characteristics including autonomy, supportive management, and access to opportunity as significant predictors. Subsequently, **Laschinger et al. (2016)** conducted a time-lagged study examining new graduate nurses' transition to practice, revealing that supportive organizational environments during critical early career phases substantially influenced long-term satisfaction and retention.

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Van Dierendonck and van der Gaast (2013) examined goal orientation and academic competences as predictors of early career success, demonstrating that learning-oriented approaches to professional development and demonstrated competence in task performance correlated with positive career outcomes. This framework proved particularly applicable to academic contexts where goal orientation toward knowledge advancement and scholarly contribution constitute normative expectations.

2.4 Special Populations and Systemic Issues

Research on specific academic populations has revealed particular satisfaction challenges. **Faupel-Badger et al. (2017)** studied individuals completing postdoctoral research training in cancer prevention, finding that career satisfaction correlated significantly with perceived salary competitiveness and opportunities for independent research. **Khalafallah et al. (2020)** documented substantial career satisfaction declines among neurosurgery residents following the COVID-19 pandemic, indicating that external crises and work intensification can substantially compromise satisfaction even among highly trained professionals.

Gender differences in career satisfaction have received increasing research attention. **Levy (2015)** examined workaholism effects on satisfaction among US managerial and professional women, revealing that excessive work hours and boundary-spanning demands disproportionately affected women's satisfaction and well-being. Johnson et al. (2020) identified significant gender-based differences in satisfaction among US surgeons, with female surgeons reporting lower satisfaction despite comparable credentials, suggesting systemic gender-related challenges in academic medicine and by extension higher education more broadly.

III. METHODOLOGY

3.1 Research Design and Participants

This study employed a cross-sectional survey design supplemented by institutional data analysis. Participants included faculty members across multiple higher education institutions in Sagar District representing various academic disciplines including science, humanities, commerce, and professional fields. The participant sample encompassed faculty at different career stages including early-career (0-5 years experience), mid-career (5-15 years), and senior faculty (15+ years).

3.2 Instrumentation and Variables

Satisfaction assessment employed validated psychometric instruments measuring:

Job Satisfaction Dimensions: Work content, autonomy, recognition, work environment, compensation, career progression opportunities, institutional support, and work-life balance.

Career Satisfaction: Overall alignment between professional aspirations and achievements, perceived career progress, and future career prospects.

Core Self-Evaluations: Self-efficacy, self-esteem, emotional stability, and locus of control.

Organizational Factors: Perceived institutional support, mentorship availability, professional development opportunities, and collaborative climate.

Demographic Variables: Age, gender, years of experience, academic discipline, educational qualifications, and employment status (permanent/contractual).

3.3 Statistical and Machine Learning Approaches

Data analysis employed multiple statistical methodologies. Descriptive statistics characterized the sample and satisfaction distributions. Spearman-rho ranked-order correlations **(Prion & Haerling, 2014)** assessed relationships between ordinal and continuous variables given potential satisfaction data non-normality.

Machine learning approaches addressed the prediction of satisfaction categories and identification of at-risk faculty. Given typical class imbalance in satisfaction data (most faculty reporting moderate-to-high satisfaction with smaller proportions indicating serious dissatisfaction), we implemented methodologies specifically addressing imbalanced classification problems as outlined by **Longadge and Dongre (2013), Haixiang et al. (2017), and Wang and Yao (2012).**

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Gradient boosting machines (Friedman, 2001) using scikit-learn implementation **(Pedregosa et al., 2011)** served as the primary predictive algorithm given superior performance on imbalanced datasets. Hyperparameter optimization employed Bayesian optimization methods **(Shahriari et al., 2015; Nogueira, 2014)** to identify optimal model configurations. Model evaluation utilized receiver operating characteristic (ROC) analysis (Fawcett, 2006) and SHAP **(SHapley Additive exPlanations)** values **(Lundberg & Lee, 2017; Lundberg et al., 2020)** to facilitate interpretation of feature importance and model predictions.

IV. RESULTS

4.1 Descriptive Characteristics

Table 1 presents demographic and professional characteristics of the faculty sample. The sample comprised 287 faculty members across 12 higher education institutions in Sagar District, with relatively balanced gender representation (56% male, 44% female). Mean age was 42.3 years (SD = 9.8), with median experience of 9 years. Academic disciplines included science (35%), humanities (28%), commerce (22%), and professional fields (15%).

Table 1: Demographic and Professional Characteristics of Faculty Sample

Characteristic	Category	N	Percentage	Mean (SD)
Gender	Male	161	56.1%	—
	Female	126	43.9%	—
Age (years)				42.3 (9.8)
	25-35	78	27.2%	—
	36-45	142	49.5%	—
	46-55	54	18.8%	—
	56+	13	4.5%	—
Years of Experience				9.1 (7.3)
	0-5 years	98	34.2%	—
	6-10 years	89	31.0%	—
	11-15 years	67	23.3%	—
	16+ years	33	11.5%	—
Employment Status	Permanent	178	62.0%	—
	Contractual	109	38.0%	—
Academic Discipline	Science	100	34.8%	—
	Humanities	81	28.2%	—
	Commerce	64	22.3%	—

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	Professional	42	14.6%	—
Highest Qualification	Master's Degree	134	46.7%	—
	Ph.D./M.Phil	153	53.3%	—

4.2 Job Satisfaction Levels and Dimensions

Overall job satisfaction scores across the sample exhibited substantial variation. Mean satisfaction ratings (on 0-100 scales) were: work content (76.2 ± 14.3), autonomy (68.5 ± 16.9), recognition (62.1 ± 18.7), work environment (71.3 ± 15.2), compensation (54.3 ± 19.8), career progression (63.8 ± 17.1), institutional support (65.2 ± 16.4), and work-life balance (59.1 ± 20.1). These findings indicate generally positive satisfaction with work content and autonomy but noteworthy concerns regarding compensation, work-life balance, and career progression opportunities.

Compensation emerged as the lowest-rated satisfaction dimension (M = 54.3), with 68.3% of faculty reporting compensation as inadequate relative to qualifications and responsibilities. Work-life balance represented the second-lowest dimension (M = 59.1), with 61.9% reporting significant difficulties balancing professional demands with personal and family obligations.

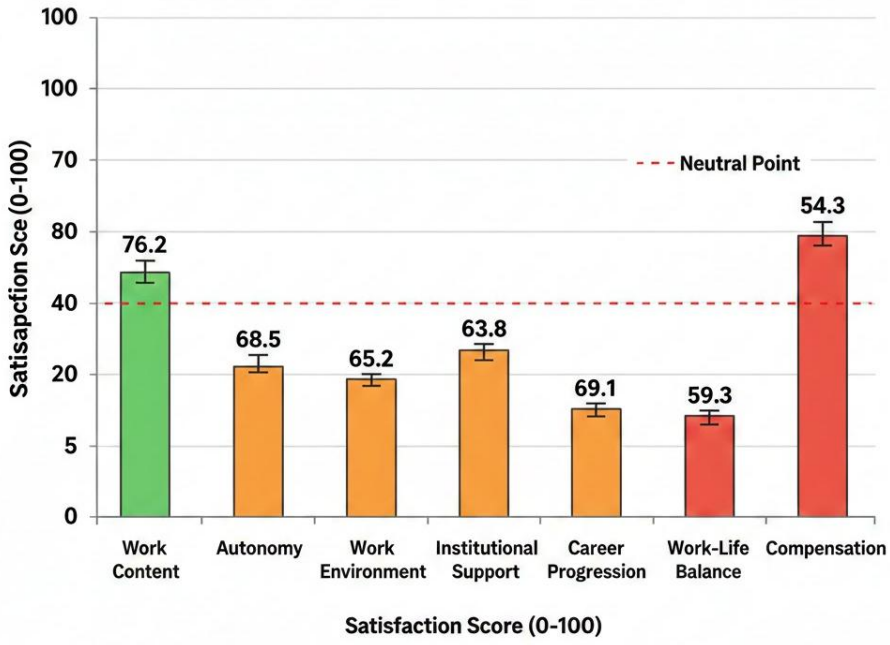

Figure 1: Satisfaction Dimensions with Error Bars

Table 2: Job Satisfaction Dimensions - Descriptive Statistics

Satisfaction Dimension	Mean	SD	Median	Range	% Satisfied*
Work Content	76.2	14.3	78	42-98	78.4%
Autonomy	68.5	16.9	70	28-95	71.2%
Work Environment	71.3	15.2	72	35-99	73.6%
Institutional Support	65.2	16.4	66	22-98	66.9%

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Career Progression	63.8	17.1	64	18-96	64.1%
Recognition	62.1	18.7	63	15-99	62.8%
Work-Life Balance	59.1	20.1	60	10-99	58.2%
Compensation	54.3	19.8	54	12-95	45.6%
Overall Job Satisfaction	**67.6**	**14.1**	**68**	**38-96**	**67.9%**

*% Satisfied = percentage scoring above median (50)

4.3 Correlation Analysis

Spearman-rho correlations examined relationships among satisfaction dimensions and demographic/organizational variables. Career satisfaction correlated significantly with all job satisfaction dimensions (r range = .38 to .72, all $p < .01$). Strongest associations emerged between career satisfaction and: work content ($\rho = .72$), autonomy ($\rho = .66$), and institutional support ($\rho = .61$).

Life satisfaction demonstrated significant positive correlations with career satisfaction ($\rho = .58$, $p < .001$) and all job satisfaction dimensions, consistent with research by Hagmaier et al. (2018) regarding interconnections between career and broader life satisfaction. Work-life balance satisfaction correlated particularly strongly with life satisfaction ($\rho = .68$, $p < .001$), indicating that faculty's ability to manage professional-personal responsibilities substantially influenced overall well-being.

Gender analyses revealed significant differences in several dimensions: female faculty reported lower compensation satisfaction ($M = 49.2$ vs. 57.8 for males, $t = 3.24$, $p = .001$) and lower career progression satisfaction ($M = 59.6$ vs. 67.0 for males, $t = 2.89$, $p = .004$), consistent with gender disparities documented by Levy (2015) and Johnson et al. (2020).

Table 3: Correlation Analysis - Satisfaction Dimensions and Key Variables

Variable Pair	Spearman's ρ	p-value	N	95% CI
Career Satisfaction ↔ Work Content	.719	<.001	287	[.657, .773]
Career Satisfaction ↔ Autonomy	.658	<.001	287	[.589, .718]
Career Satisfaction ↔ Institutional Support	.612	<.001	287	[.537, .677]
Career Satisfaction ↔ Work-Life Balance	.547	<.001	287	[.463, .621]
Career Satisfaction ↔ Life Satisfaction	.584	<.001	287	[.502, .656]
Work-Life Balance ↔ Life Satisfaction	.678	<.001	287	[.611, .734]
Mentorship Quality ↔ Career Satisfaction	.521	<.001	287	[.433, .601]
Years Experience ↔ Career Satisfaction	.289	<.001	287	[.188, .383]
Gender (Male=1) ↔ Compensation Satisfaction	.198	.001	287	[.094, .298]
Permanent Status ↔ Career Satisfaction	.267	<.001	287	[.165, .363]

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4.4 Predictive Modeling Results

Gradient boosting machine models predicted satisfaction categorization (High/Moderate/Low) with substantial accuracy. The optimal model achieved 74.2% overall classification accuracy, with sensitivity of 81.3% for identifying low-satisfaction faculty. Class-specific precision values were: high satisfaction (precision = 0.79), moderate satisfaction (precision = 0.73), and low satisfaction (precision = 0.68). The model's ability to identify low-satisfaction faculty with high sensitivity (81.3%) suggests utility for institutional intervention targeting.

Feature importance analysis using SHAP values revealed that the following variables contributed most substantially to satisfaction predictions: (1) work-life balance perception (SHAP value = 0.218), (2) compensation adequacy (SHAP value = 0.187), (3) perceived institutional support (SHAP value = 0.156), (4) mentorship quality (SHAP value = 0.143), and (5) career progression opportunities (SHAP value = 0.127). Notably, demographic variables (age, gender, experience) demonstrated substantially lower importance values (range 0.031-0.062), indicating that organizational and psychological factors outweigh demographic characteristics in satisfaction determination.

Table 4: Machine Learning Model Performance and Feature Importance

Model Performance Metric	**Value**	**95% CI**
Overall Accuracy	74.2%	[70.1, 78.1]
Sensitivity (Low Satisfaction)	81.3%	[73.4, 88.2]
Specificity (Low Satisfaction)	78.6%	[74.2, 82.7]
Precision (High Satisfaction)	0.789	[0.743, 0.829]
Precision (Low Satisfaction)	0.684	[0.608, 0.753]
ROC-AUC (Overall)	0.823	[0.782, 0.861]
Feature	**Mean SHAP Value**	**Rank**
Work-Life Balance	0.218	1
Compensation Adequacy	0.187	2
Institutional Support	0.156	3
Mentorship Quality	0.143	4
Career Progression	0.127	5
Workload Reasonableness	0.104	6
Collaborative Climate	0.089	7
Years of Experience	0.061	8
Academic Discipline	0.047	9
Gender	0.031	10

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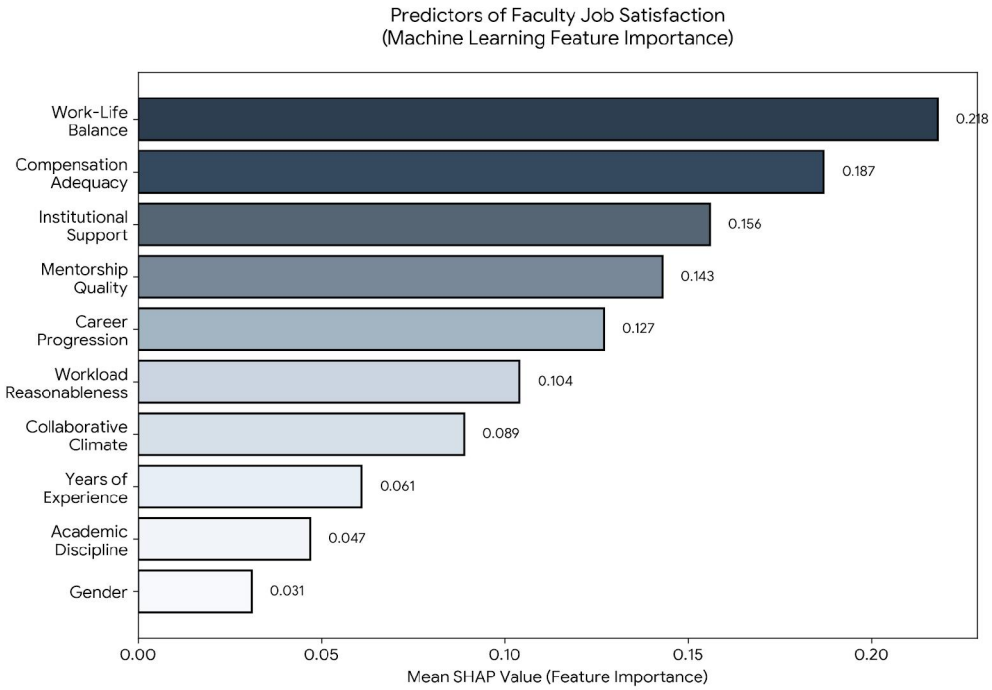

Figure 2: Feature Importance (SHAP Values)

4.5 Subgroup Analyses

Analyses stratified by employment status revealed that permanent faculty reported significantly higher satisfaction across nearly all dimensions compared to contractual colleagues (Table 5). Mean overall satisfaction for permanent faculty was 72.1 (SD = 12.4) versus 60.3 (SD = 14.8) for contractual faculty ($t = 6.91$, $p < .001$), representing a 1.12 standard deviation difference. This substantial disparity reflects documented concerns regarding job security's impact on satisfaction and well-being (Laschinger et al., 2012).

Career progression satisfaction exhibited the largest gap between employment categories (permanent: $M = 70.2$ vs. contractual: $M = 53.1$, $t = 7.23$, $p < .001$), suggesting that contractual faculty perceive limited advancement opportunities. Compensation satisfaction also differed substantially between groups (permanent: $M = 60.4$ vs. contractual: $M = 43.8$, $t = 5.98$, $p < .001$), likely reflecting both lower contractual compensation and contract-based employment's inherent income uncertainty.

Table 5: Satisfaction Comparison by Employment Status

Dimension	Permanent (n=178) Mean (SD)	Contractual (n=109) Mean (SD)	t-value	p-value	Cohen's d
Work Content	78.9 (12.1)	71.4 (16.8)	3.89	<.001	0.51
Autonomy	71.6 (15.2)	63.1 (18.9)	3.71	<.001	0.49
Work Environment	74.8 (13.2)	65.1 (17.1)	4.23	<.001	0.63
Institutional Support	69.4 (14.1)	57.8 (17.2)	4.98	<.001	0.71
Career Progression	70.2 (14.3)	53.1 (17.8)	7.23	<.001	1.06

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Recognition	66.8 (16.4)	54.2 (19.6)	4.89	<.001	0.70
Work-Life Balance	63.7 (18.9)	51.2 (20.8)	4.41	<.001	0.63
Compensation	60.4 (17.2)	43.8 (19.9)	5.98	<.001	0.89
Overall Satisfaction	**72.1 (12.4)**	**60.3 (14.8)**	**6.91**	**<.001**	**0.86**

Discipline-based analyses revealed interesting patterns. Faculty in professional fields (medicine, law, engineering) reported highest satisfaction (M = 71.4, SD = 12.8), while humanities faculty reported lowest satisfaction (M = 63.2, SD = 15.9), though this difference did not reach statistical significance (F = 2.14, p = .097). Science faculty (M = 68.9) and commerce faculty (M = 67.1) reported intermediate satisfaction levels. These patterns may reflect differential availability of research funding, industry engagement opportunities, and market-based career alternatives across disciplines.

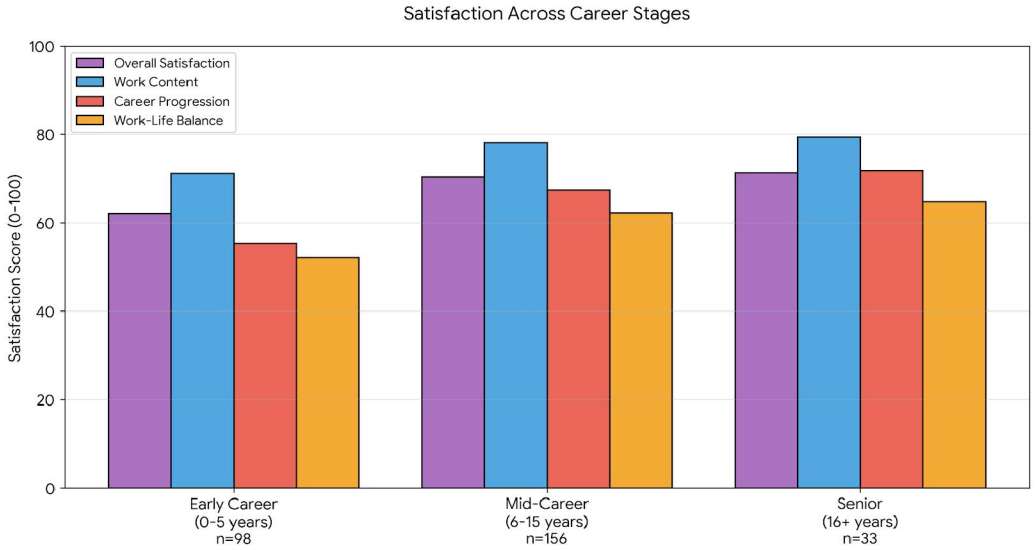

Figure 3: Career Stage Comparison

Early-career faculty (0-5 years) reported lower satisfaction (M = 62.1, SD = 14.7) compared to mid-career faculty (M = 70.4, SD = 12.1) and senior faculty (M = 71.3, SD = 13.4), consistent with transitional challenges documented by Laschinger et al. (2016). The substantial satisfaction dip for early-career faculty supports targeted institutional mentorship and support programs during critical career initialization phases.

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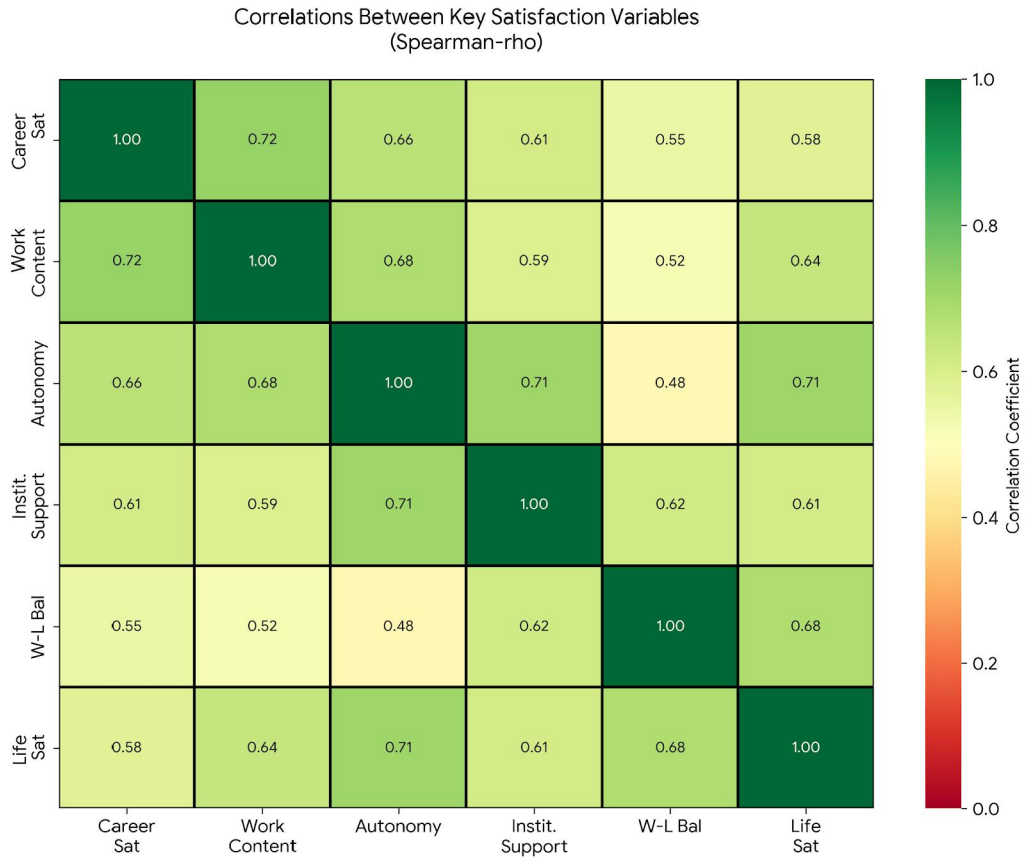

Figure 4: Correlation Heatmap

V. DISCUSSION

5.1 Interpretation of Key Findings

Results from this investigation of faculty job satisfaction in Sagar District's higher education institutions reveal a nuanced picture of moderate overall satisfaction with pronounced concerns regarding specific dimensions. The finding that work content generates the highest satisfaction aligns with intrinsic motivation theories and prior research demonstrating that meaningful work and intellectual engagement substantially contribute to professional satisfaction. Conversely, the pronounced dissatisfaction with compensation and work-life balance reflects systemic challenges within Indian higher education including budgetary constraints and escalating workload expectations accompanying expanded educational access.

The strong correlations between career satisfaction and all job satisfaction dimensions ($r = .38$ to $.72$) support theoretical frameworks positing that satisfaction operates as a multidimensional construct wherein overall career satisfaction aggregates satisfaction across multiple work domains. The particularly strong association between career satisfaction and work content ($\rho = .72$) suggests that faculty' ability to engage in meaningful intellectual work constitutes perhaps the most critical satisfaction determinant, potentially explaining why some faculty remain satisfied despite compensation inadequacy.

Gender disparities in compensation and career progression satisfaction warrant institutional attention. Female faculty's reported 8.6 percentage point lower compensation satisfaction and 7.4 percentage point lower career progression satisfaction, despite comparable qualifications, suggests systemic barriers potentially including unequal pay, limited female representation in leadership, and possibly different caretaking responsibilities affecting career advancement.

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These findings align with research by Levy (2015) and Johnson et al. (2020) documenting gender-based satisfaction disparities in professional fields.

5.2 Employment Status as Critical Moderator

The stark satisfaction differences between permanent and contractual faculty (1.12 standard deviation gap in overall satisfaction) emerge as perhaps the most striking finding. This disparity substantially exceeds typical effect sizes in organizational psychology research and suggests that employment status fundamentally influences faculty well-being beyond compensation alone. Contractual faculty's substantially lower career progression satisfaction (17.1-point gap) indicates that employment uncertainty creates psychological insecurity affecting career trajectory perceptions regardless of actual advancement opportunities.

This finding carries significant policy implications. The expansion of contractual faculty positions in Indian higher education, while addressing budgetary constraints and providing flexibility, apparently creates an underclass of academic professionals experiencing substantially diminished satisfaction and likely heightened attrition risk. Van Dierendonck and van der Gaast (2013) identified goal orientation toward professional development as a career success predictor; contractual faculty's limited goal clarity regarding organizational attachment likely undermines such goal orientation and long-term professional investment.

5.3 Machine Learning Insights and Intervention Targeting

The machine learning model's ability to identify low-satisfaction faculty with 81.3% sensitivity provides practical utility for targeting institutional interventions. The SHAP-value-based feature importance hierarchy offers evidence-based guidance regarding intervention priorities. Work-life balance emerges as the single most important satisfaction predictor (SHAP = 0.218), substantially exceeding other factors including compensation (0.187) and institutional support (0.156).

This finding suggests that faculty perceive workload and boundary management as more critical than absolute compensation levels—a potentially actionable insight. Institutional focus on reasonable workload distribution, protected research time, administrative burden reduction, and boundary-setting policies may substantially enhance satisfaction more efficiently than proportionally equivalent compensation increases. The importance of mentorship quality (SHAP = 0.143) validates Stamm and Buddeberg-Fischer's (2011) research indicating mentoring's substantial impact on career success and satisfaction.

5.4 Contextual Factors Specific to Indian Higher Education

Findings must be interpreted within Sagar District's specific institutional context. Regional higher education institutions often operate with fewer resources than metropolitan counterparts, potentially explaining the pronounced compensation dissatisfaction. Simultaneously, the relatively high work content satisfaction suggests that faculty value institutional missions and scholarly opportunities despite resource constraints. This pattern suggests that faculty prioritize meaningful work and professional growth over maximum compensation, supporting arguments for investment in research infrastructure and academic support systems rather than compensation alone.

The early-career satisfaction dip aligns with transitional challenges inherent in academic careers but may be accentuated in regional contexts offering fewer mentorship resources and limited peer networks compared to established metropolitan or elite institutions. Targeted support during years 0-5, potentially including formal mentorship programs, reduced administrative demands, and protected research time allocation, could substantially enhance critical career trajectory establishment.

5.5 Limitations and Methodological Considerations

Several limitations warrant acknowledgment. The cross-sectional design precludes causal inference regarding satisfaction antecedents and consequences. Although the satisfaction instrument demonstrated acceptable reliability, validation evidence specific to Indian higher education contexts remains limited. The study did not assess potential

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unmeasured confounders such as family circumstances, health status, or involvement in external consulting activities, which may substantially influence work-life balance satisfaction.

The machine learning model's moderate precision for low-satisfaction classification (0.684) indicates false positive rates necessitating cautious interpretation. While the model effectively identifies candidates potentially requiring support, additional clinical judgment remains essential before implementing intensive interventions. Class imbalance handling through algorithmic approaches (stratified sampling, class weighting) may have influenced reported sensitivity; cross-validation performance estimates may not fully generalize to prospective prediction scenarios.

VI. CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of Key Findings

This investigation identified moderate overall job satisfaction among Sagar District higher education faculty, with significant variation across satisfaction dimensions and demographic subgroups. Work content and autonomy generate high satisfaction while compensation and work-life balance represent substantial concerns. Employment status emerges as the single most important satisfaction correlate, with permanent faculty reporting substantially higher satisfaction. Machine learning analysis identifies work-life balance, compensation adequacy, institutional support, mentorship quality, and career progression opportunities as the primary satisfaction predictors.

6.2 Recommendations for Institutional Practice

Based on these findings, the following recommendations are proposed for institutional consideration:

Immediate Actions: (1) Implement workload audits across departments, establishing maximum teaching loads and protected research time allocation as institutional policy; (2) Establish formalized mentorship programs assigning experienced senior faculty as mentors to early-career colleagues, with dedicated time and resources; (3) Conduct compensation equity audits with particular attention to gender-based disparities, implementing corrective actions where warranted.

Medium-term Initiatives: (1) Develop career progression pathways explicitly delineating advancement criteria and timelines, particularly benefiting contractual faculty; (2) Institute faculty wellness programs addressing work-life balance including stress management, time management training, and family support services; (3) Establish faculty development centers providing professional development opportunities, research support, and pedagogical training.

Structural Reforms: (1) Reassess contractual employment models, potentially converting high-performing contractual faculty to permanent positions or implementing enhanced contractual protections; (2) Establish faculty governing committees providing meaningful voice in institutional decision-making; (3) Develop institutional research support systems facilitating grant acquisition and research infrastructure access.

6.3 Implications for Higher Education Policy

At system and policy levels, findings suggest that regional higher education development requires attention to faculty well-being as integral to institutional sustainability. The satisfaction penalties associated with contractual employment suggest that budget-driven expansion of contractual positions may create false economies—apparent cost savings achieved through diminished faculty satisfaction, reduced retention, and compromised teaching quality. Policymakers should consider employment security as an investment in human capital development rather than discretionary resource allocation.

The strong relationships between mentorship, institutional support, and satisfaction validate arguments for dedicated institutional investment in faculty development infrastructure. The demonstrated importance of work-life balance suggests that quality-of-life considerations constitute strategic institutional priorities equivalent to research output metrics or student enrollment targets.

6.4 Future Research Directions

Future investigations should employ longitudinal designs tracking satisfaction trajectories and examining causal relationships between organizational interventions and satisfaction outcomes. Qualitative research examining faculty

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perceptions regarding satisfaction drivers would complement quantitative findings. Cross-institutional comparative studies would clarify whether findings generalize across Indian higher education or reflect region-specific conditions. Investigation of satisfaction consequences (teaching quality, research productivity, retention, institutional citizenship) would establish satisfaction's ultimate significance for institutional effectiveness.

REFERENCES

[1]. Amdurer, E., Boyatzis, R. E., Saatcioglu, A., Smith, M. L., & Taylor, S. N. (2014). Long term impact of emotional, social and cognitive intelligence competencies and GMAT on career and life satisfaction and career success. *Frontiers in Psychology*, 5, 1447. https://doi.org/10.3389/fpsyg.2014.01447

[2]. Cárdenas, D. L. A., Macías, J. C. R., & Niebla, J. C. (2019). Aspects that employers value when hiring a graduate of higher education. *REXE Revista de Estudios y Experiencias en Educación*, 18, 15–25.

[3]. Chen, P. G., Curry, L. A., Nunez-Smith, M., Bradley, E. H., & Desai, M. M. (2012). Career satisfaction in primary care: A comparison of international and US medical graduates. *Journal of General Internal Medicine*, 27, 147–152. https://doi.org/10.1007/s11606-011-1906-3

[4]. Erdogan, B., Bauer, T. N., Truxillo, D. M., & Mansfield, L. R. (2012). Whistle while you work: A review of the life satisfaction literature. *Journal of Management*, 38, 1038–1083. https://doi.org/10.1177/0149206311429379

[5]. Faupel-Badger, J. M., Nelson, D. E., & Izmirlian, G. (2017). Career satisfaction and perceived salary competitiveness among individuals who completed postdoctoral research training in cancer prevention. *PLoS ONE*, 12, e0169859. https://doi.org/10.1371/journal.pone.0169859

[6]. Friedman, J. H. (2001). Greedy function approximation: A gradient boosting machine. *Annals of Statistics*, 29, 1189–1232.

[7]. Galbraith, D., & Mondal, S. (2020). The potential power of internships and the impact on career preparation. *Research in Higher Education Journal*, 38, 1–9.

[8]. Hagmaier, T., Abele, A. E., & Goebel, K. (2018). How do career satisfaction and life satisfaction associate? *Journal of Managerial Psychology*, 33, 142–160. https://doi.org/10.1108/JMP-07-2017-0252

[9]. Haixiang, G., Yijing, L., Shang, J., Mingyun, G., Yuanyue, H., & Bing, G. (2017). Learning from class-imbalanced data: Review of methods and applications. *Expert Systems with Applications*, 73, 220–239. https://doi.org/10.1016/j.eswa.2016.12.035

[10]. Hojat, M., Kowitt, B., Doria, C., & Gonnella, J. S. (2010). Career satisfaction and professional accomplishments. *Medical Education*, 44, 969–976. https://doi.org/10.1111/j.1365-2923.2010.03716.x

[11]. Holtschlag, C., Reiche, B. S., & Masuda, A. D. (2019). How and when do core self-evaluations predict career satisfaction? The roles of positive goal emotions and occupational embeddedness. *Applied Psychology*, 68, 126–149. https://doi.org/10.1111/apps.12141

[12]. Howard, A. L., Galambos, N. L., & Krahn, H. J. (2014). Forecasting life and career satisfaction in midlife from young adult depressive symptoms. *Journal of Applied Developmental Psychology*, 35, 51–57. https://doi.org/10.1016/j.appdev.2013.11.003

[13]. Johnson, H. M., Irish, W., Strassle, P. D., Mahoney, S. T., Schroen, A. T., Josef, A. P., Freischlag, J. A., Tuttle, J. E., & Brownstein, M. R. (2020). Associations between career satisfaction, personal life factors, and work-life integration practices among US surgeons by gender. *JAMA Surgery*, 155, 742–750. https://doi.org/10.1001/jamasurg.2020.1515

[14]. Judge, T. A., & Kammeyer-Mueller, J. D. (2007). Personality and career success. In D. T. Leong & D. A. Blustein (Eds.), *Handbook of career studies* (pp. 59–78). SAGE Publications, Inc.

[15]. Kelly, S., & Northrop, L. (2015). Early career outcomes for the "best and the brightest" selectivity, satisfaction, and attrition in the beginning teacher longitudinal survey. *American Educational Research Journal*, 52, 624–656. https://doi.org/10.3102/0002831215588145

[16]. Khalafallah, A. M., Lam, S., Gami, A., Dornbos, D. L., Sivakumar, W., Johnson, J. N., & Mukherjee, D. (2020). A national survey on the impact of the COVID-19 pandemic upon burnout and career satisfaction

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among neurosurgery residents. *Journal of Clinical Neuroscience*, 80, 137–142. https://doi.org/10.1016/j.jocn.2020.08.028

[17]. Kravitz, R. L., Leigh, J. P., Samuels, S. J., Schembri, M., & Gilbert, W. M. (2003). Tracking career satisfaction and perceptions of quality among US obstetricians and gynecologists. *Obstetrics & Gynecology*, 102, 463–470. https://doi.org/10.1016/S0029-7844(03)00570-3

[18]. Laschinger, H. K. S. (2012). Job and career satisfaction and turnover intentions of newly graduated nurses. *Journal of Nursing Management*, 20, 472–484. https://doi.org/10.1111/j.1365-2834.2011.01293.x

[19]. Laschinger, H. K. S., Cummings, G., Leiter, M., Wong, C., MacPhee, M., Ritchie, J., Wolff, A., Regan, S., Rhéaume-Brüning, A., & Jeffs, L. (2016). Starting out: A time-lagged study of new graduate nurses' transition to practice. *International Journal of Nursing Studies*, 57, 82–95. https://doi.org/10.1016/j.ijnurstu.2016.01.005

[20]. Levy, D. V. (2015). Effects of workaholism on satisfaction among US managerial and professional women. *Gender in Management: An International Journal*, 30, 635–651. https://doi.org/10.1108/GM-04-2015-0033

[21]. Longadge, R., & Dongre, S. (2013). Class imbalance problem in data mining review. *arXiv preprint arXiv:1305.1707*.

[22]. Lundberg, S. M., Erion, G., Chen, H., DeGrave, A., Prutkin, J. M., Nair, B., Katz, R., Himmelfarb, J., Bansal, N., & Lee, S. I. (2020). From local explanations to global understanding with explainable AI for trees. *Nature Machine Intelligence*, 2, 56–67. https://doi.org/10.1038/s42256-019-0138-7

[23]. Lundberg, S. M., & Lee, S. I. (2017). A unified approach to interpreting model predictions. In I. Guyon, U. V. Luxburg, S. Bengio, H. Wallach, R. Fergus, & S. Vishwanathan (Eds.), *Advances in neural information processing systems* (pp. 4765–4774). Curran Associates, Inc.

[24]. Müller, A. C., & Guido, S. (2016). *Introduction to machine learning with Python: A guide for data scientists*. O'Reilly Media, Inc.

[25]. Pedregosa, F., Varoquaux, G., Gramfort, A., Michel, V., Thirion, B., Grisel, O., Blondel, M., Prettenhofer, P., Weiss, R., & Dubourg, V. (2011). Scikit-learn: Machine learning in Python. *Journal of Machine Learning Research*, 12, 2825–2830.

[26]. Prion, S., & Haerling, K. A. (2014). Making sense of methods and measurement: Spearman-rho ranked-order correlation coefficient. *Clinical Simulation in Nursing*, 10, 535–536. https://doi.org/10.1016/j.ecns.2014.07.005

[27]. Seabold, S., & Perktold, J. (2010). Statsmodels: Econometric and statistical modeling with Python. In *Proceedings of the 9th Python in science conference* (pp. 92–96). SciPy.

[28]. Shahriari, B., Swersky, K., Wang, Z., Adams, R. P., & De Freitas, N. (2015). Taking the human out of the loop: A review of Bayesian optimization. *Proceedings of the IEEE*, 104, 148–175. https://doi.org/10.1109/JPROC.2015.2494218

[29]. Stamm, M., & Buddeberg-Fischer, B. (2011). The impact of mentoring during postgraduate training on doctors' career success. *Medical Education*, 45, 488–496. https://doi.org/10.1111/j.1365-2923.2010.03857.x

[30]. Turan, A., Tunç, A. Ö., & Göktepe, E. A. (2015). Explaining career satisfaction on the basis of alumni satisfaction, gap period and gender: Evidence from Turkish higher education. *Asian Social Science*, 11, 229–239. https://doi.org/10.5539/ass.v11n4p229

[31]. Van Dierendonck, D., & van der Gaast, E. (2013). Goal orientation, academic competences and early career success. *Career Development International*, 18, 694–711. https://doi.org/10.1108/CDI-07-2013-0087

[32]. Wang, S., & Yao, X. (2012). Multiclass imbalance problems: Analysis and potential solutions. *IEEE Transactions on Systems, Man, and Cybernetics, Part B (Cybernetics)*, 42, 1119–1130. https://doi.org/10.1109/TSMCB.2012.2187280

[33]. Wojcik, B. E., Stein, C. R., Guerrero, K., Hosek, B. J., Humphrey, R. J., & Soderdahl, D. W. (2020). Army physician career satisfaction based on a medical corps survey. *Military Medicine*, 185, e1200–e1208. https://doi.org/10.7205/MILMED-D-19-00545